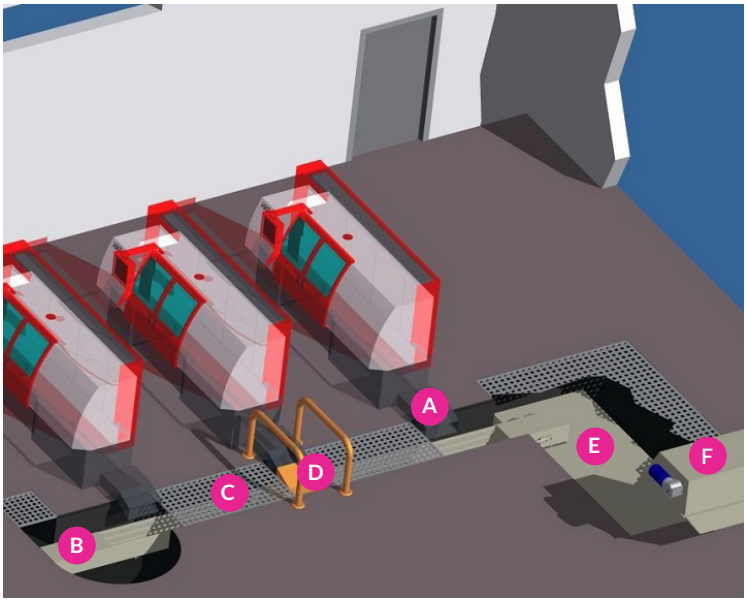
MECHANICAL SYSTEM

METAL SWARF

SYSTEMS



DESCRIPTION

FAMA **mechanical systems** are traditional centralized systems designed to collect and transport swarf and cutting fluids through slat conveyors or scraping conveyors.
The aim is to collect and transport swarf and cutting fluids directly from the machine tool continuously, automatically and without the constant presence of an operator.
The conveyors are positioned inside special trenches dug into the floor. Therefore, the construction of civil works may be necessary.
The machines are placed in line, in order to unload swarf and cutting fluid inside the conveyors that flow to the collection tank.
FAMA mechanical systems can cover a theoretically unlimited distance.

The goal is simple: a system that allows the removal of chips and oil from lathes, milling machines, CNCs and other machines continuously, automatically and without the constant presence of an operator to control it.

CHARACTERISTICS

- Allows the chip to be evacuated from the machine tool to the treatment or storage site
- Transports the chip continuously, automatically and without the constant presence of an operator to control it
- Transports both dry chip and chip impregnated with coolant
- The transport channels are buried and covered by walkable grids
- Allows unattended work

SUPPLY

- Oil and swarf collection conveyor with vanes or slats or screws
- Hoppers for connection between the conveyor and the machine tools
- Geared motor of adequate power according to the conveyor length
- Cooling lubricant collection and swarf settling tank, with vane dredger for swarf extraction
- Main electrical panel

OPTIONAL

- Grates or walkable closing plates for the trenches and the pit
- Centrifugal pumps for oil reintegration to the machines in low or high pressure
- Crusher for long and skein-type metal swarf

CONTINUOUS WORK

UNATTENDED WORK

LONG DISTANCE

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MECHANICAL SYSTEM

SYSTEMS

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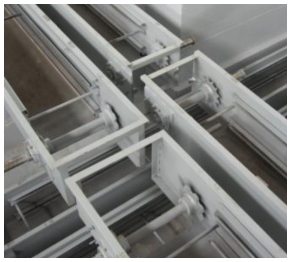
OPERATION

The machine evacuation system will be adapted [**A**] to discharge shavings and oil into the collection channel [**B**]. This, positioned inside a trench, will be equipped with special hoppers to connect it to the machine evacuators [**D**]. All the trenches will be covered with grates or steel plates that can be walked on [**C**]. The flow of oil and shavings from the channel will be discharged into a dredged tank, sized to ensure good swarf settling [**E**]. The swarf deposited on the bottom will be removed by the dredger and discharged into a container or treated by centrifugation [**F**].



Changes of direction can take place by gravity (1), or by direct intersection for the oil and with duck beak for the solid part (2).

The channels can be single or double for mono or bi material. In this case a paddle channel was created for brass and a roller shutter channel for steel.

TECHNICAL DATA

COVERED DISTANCE	Unlimited
QUANTITY PER LINE	Theoretically unlimited, to be defined at the design stage based on needs
POWER	To be defined
VOLTAGE	230/400 V
LOADING	Continuous
CIVIL WORKS	To be defined
VERSATILITY	Limited
TYPE OF SWARF	Any
COOLANT	Any

The data described are to be considered as limit values. Each case must be studied, analysed, dimensioned and designed. The number of machines that can be connected depends on the distance and quantity of swarf

HOURLY PRODUCTION

Q = 5 m3/h	BRASS	STEEL	ALUMINIUM	STAINLESS STEEL	COPPER	CAST IRON
Δ density [kg/dm3]	1,2	1,1	0,4	1,1	1,5	1,4
kg/h	TO BE SIZED ACCORDING TO REQUIREMENTS					

The data in kg/h are approximate and in any case depend on the density of the swarf, the shape, the oil content and the type of coolant. The density data considered are hypothetical, based on an experimental average of the data in our possession.

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